South Carolina Department of Health
and Environmental Control

Underground Storage Tank Assessment Guidelines

Underground Storage Tank Program
Bureau of Land & Waste Management
2600 Bull Street
Columbia, SC 29201
Phone (803) 896-6240 Fax (803) 896-6245

August 18, 2004

Underground Storage Tank Assessment Guidelines for Permanent Closure and Change-In-Service

(Revised August 18, 2004)

***This revision includes the following changes:**

- **Analysis for groundwater samples must now include 1,2 DCA.**
- **If ground water is encountered in any excavation at least one sample should be collected for analysis. In many cases a ground water sample may be taken in lieu of soil samples in the tank excavation. Contact the Department for guidance.**
- **Summary tables added for reporting analytical results for soil and groundwater samples.**

I. INTRODUCTION

A) The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (Department) has developed this technical guidance at the request of the regulated community to help UST owners and operators assess their sites. South Carolina UST Control Regulations (SCUSTCR) require, before permanent closure or a change-in-service is completed, that owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release must be considered.

B) To provide better service and response times, a standardized assessment report format has been developed. The use of this format will provide the Department with all information needed to evaluate the report without additional requests for information. The assessment report can be submitted as a stand-alone document or included as an appendix in a more comprehensive report. All closure and change-in-service reports are required to be submitted in this format. The assessment report and instructions for its use are included in this document.

C) If you have any questions regarding these guidelines, or would like a copy of the South Carolina UST Control Regulations or other UST related documents, please contact the Underground Storage Tank Program at (803) 896-6240, FAX (803) 896-6245.

II. FOR YOUR INFORMATION

A) Include the Department's Permit ID number on any correspondence concerning the site.

B) An UST must be permanently closed if it has been temporarily closed for longer than 12 months and does not meet the performance standards for new systems or the upgrading requirements for existing systems.

C) The Department does not license or certify contractors performing UST installation, upgrade, or closure activities. The regulations reference industry standards that may be used to ensure compliance with installation, upgrade, or closure requirements. UST owners and operators are solely responsible for ensuring that these activities are performed in accordance with referenced standards.

D) To permanently close an UST, it must be emptied and cleaned of all liquids and accumulated sludges. Product lines must be purged of all liquids. The UST must also be removed from the ground or filled in place with an inert solid material such as sand, foam, or concrete. Water is not an inert solid material and cannot be used for in place closure. The physical closure of the UST (either by removal or filling in place) must conform to the established industry standards listed below:

1. American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks";

2. American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks".

CAUTION: USTs can contain large quantities of explosive vapors which may ignite if handled improperly. Individuals closing UST systems should follow the industry standards referenced above to reduce the risk of accidents.

E) Owners and operators must notify the Department at least 30 days prior to permanent closure or change-in-service. A change-in-service is the continued use of an UST to store a non-regulated substance.

F) An assessment is required for the permanent closure or change-in-service of an UST system. It should include information for the USTs, product piping, and dispenser islands. Submittal of copies of the last twelve months of external release detection methods (vapor monitoring and ground water monitoring only), which have been performed in accordance with SCUSTCR and indicate no release has occurred, will satisfy assessment requirements for that component (USTs, product piping, dispenser islands) of the system being monitored.

G) Assessment reports should be submitted to the Department within 60 days of permanent closure or change-in-service.

H) When evaluating potential contractors or consultants, UST owners and operators can do several things to ensure a quality job. Always ask for, and check, references. Request a list of the latest jobs the contractor has completed. Recent jobs should be specified; otherwise, the owner and operator may only get a list of those customers who were satisfied.

I) A written contract that clearly specifies what work is to be done and which party will be responsible for completing each step of the process should always be provided. For example, if the owner and operator want the contractor to supply a copy of their report to the Department, that requirement should be included in the contract.

J) The price for work can vary widely. The Department recommends that you get competitive bids from several reputable firms.

K) All analytical data collected during the assessment should be reported in the assessment report. For analytical parameters (for specific petroleum products), analytical methods, and reporting limits, please refer to Part VI of this document, SOIL/GROUND WATER LABORATORY ANALYSIS.

L) If free product or contamination is discovered at a site, the UST owner/operator must report the release to the Department within 72 hours of discovery. An UST 72 Hour Release Report form is attached to this guidance document.

M) Even if a full service firm is hired to handle all aspects of the project, the UST owner and operator are responsible for satisfying all regulatory requirements. If the work is not done properly, the owner and operator will be held responsible for correcting any problems.

III. BASIC SITE ASSESSMENT INFORMATION

A) If ground water is encountered in any boring, at least one ground water sample should be collected for analysis. If ground water is <u>expected</u> to be encountered at a site, a monitoring well request (per R.61-71) should be submitted to the Department prior to beginning the assessment. All monitoring wells, whether temporary or permanent, must be approved by the Department.

B) If ground water is encountered in any excavation at least one ground water sample should be collected for analysis. Document the presence or absence of a petroleum (iridescent) sheen or free product on the water in the excavation. Soil samples should be taken from the excavation walls at or immediately above the static water level located at the ends of the USTs and/or in areas of contamination noted through sight, smell and/or organic vapor analyzer (OVA) measurements.

C) Samples for laboratory analysis must be collected and stored using proper methods. **Ground water and soil samples MUST be placed on wet or dry ice immediately upon sampling and maintained at 4 degrees Celsius/ 39 degrees Fahrenheit until relinquished at the laboratory**. See REFERENCES FOR SAMPLING PROTOCOL below. Please note: Most refrigerators will not maintain samples at the required temperature.

D) An OVA may be used to assist in the selection of samples for laboratory analysis. Please note that OVAs are **not** as effective with higher boiling point products such as diesel fuel, kerosene, or waste oil.

E) If ground water is encountered in any excavation at least one sample should be collected for analysis. In many cases a ground water sample may be taken in lieu of soil samples in the tank excavation. Contact the Department for guidance.

F) Chemicals of concern (COC) are specific constituents that are identified for evaluation in the assessment process. Reporting limits for COCs in soil and water samples are provided in Part VI, SOIL/GROUNDWATER LABORATORY ANALYSIS. If detection limits must be elevated for highly contaminated samples, the dilution must be documented with the analytical results.

G) Appropriate chain of custody forms must be maintained for the laboratory reports to be considered valid.

H) Analyses must be performed by a laboratory certified by the Department (per R.61-81) using Environmental Protection Agency (EPA) analytical methods. The laboratory report of analyses results must include the SC Laboratory Identification number of the laboratory which performed the **actual** analysis. Contact the Department's Laboratory Certification Section at (803) 935-7025 to confirm a laboratory's certification.

I) References for sampling protocol:

1) EPA Publication #600\2-85\104, September, 1985, "**Practical Guidance for Ground-Water Sampling".**
2) EPA Publication #OSWER-9950.1, September, 1986, "**RCRA Ground-Water Monitoring Technical Enforcement Guidance Document**".
3) EPA Publication SW-846, Third Edition, 1986, Updates I, II, IIA, IIB, and III, "**Test Methods for Evaluating Solid Waste, Physical/Chemical Methods**".
4) EPA Publication #530/UST-90-003, September, 1990, "**Field Measurements, Dependable Data When You Need It**".

IV. RECOMMENDED SAMPLING LOCATIONS

A) It is important that assessment information be representative of site conditions. The sampling program used should consider the method of closure. The two UST closure methods are treated differently since USTs that are removed from the ground enable the bottom of the excavation to be visually inspected. In this case, the visual inspection of the exterior of the UST and excavation is an important component of the closure activity and can provide information to determine if a release has occurred. Holes in the UST and/or areas of stained soils should be noted in the assessment report. Using this information, sampling locations can be tailored to make an initial determination concerning the presence of contamination.

B) The exterior of USTs that are closed in place cannot be visually inspected. Consequently, the presence or size of releases cannot be determined and a more comprehensive assessment is necessary.

C) In addition to the USTs, the product piping and dispenser islands must also be assessed. The majority of releases associated with UST systems are a result of releases from product piping and dispenser islands. Regardless of the method of closure, it is imperative that the assessment includes information for all components of the system - **the USTs, product piping, and dispenser islands.**

D) FOR UST CLOSURE BY REMOVAL

1) The recommended minimum number of soil samples to be collected from a single UST excavation is equal to the number of USTs, plus one. The samples should be collected from areas of the excavation judged most likely to be contaminated. The most likely sampling areas would include UST ends, the area directly beneath the USTs and in those areas of noted UST failure (discolored soils or petroleum odors). After excavating only enough soil to remove the USTs from the ground, soil samples should be taken from the undisturbed (native) soils at the bottom of the excavation. If the excavation walls appear contaminated, additional soil samples should be collected from these areas.

2) If ground water is encountered in any excavation at least one sample should be collected for analysis. In many cases a ground water sample may be taken in lieu of soil samples in the tank excavation. Contact the Department for guidance.

E) FOR UST CLOSURE IN PLACE OR CHANGE-IN-SERVICE

1) The recommended minimum number of soil samples collected from each area where the USTs are located is equal to **twice** the number of USTs. Borings should be placed at or near each end of every UST. Samples should be taken at least two feet below the base of the UST.

2) If ground water is encountered in any boring, at least ONE sample should be collected for analysis. If ground water is <u>expected</u> to be encountered at a site, a monitoring well request should be submitted to the Department prior to beginning an assessment.

F) PRODUCT PIPING

Samples should be taken at every junction and change in direction as well as every twenty (20) feet along straight runs of piping which are thirty (30) feet or longer. Straight runs of piping less than thirty (30) feet in length should be sampled at the midpoint. Samples should be collected approximately two feet below the bottom of the piping from each location.

G) DISPENSER ISLANDS

All dispenser islands should be sampled. If the dispenser island is located above or immediately adjacent **(less than five feet)** to the UST, the sample for the island can be incorporated into the sample for that UST. Otherwise, dispenser islands should be individually sampled. Samples should be collected approximately two feet below the bottom of the associated piping.

V. UST CLOSURE ACTIVITIES

A) BEFORE CLOSURE

1) Notify the Department in writing **30 days** before UST system closure. Written confirmation will be returned and should be on site during closure. To allow the Department's Field Inspection Staff an opportunity to attend the UST closure, please call the Department at least ten days before the closure to inform them of the intended closure date and again 48 hours before the actual closure date. Other local agencies (fire marshall, etc.) may also need notification of closure activity. Contact the local governing agency for information.

2) All USTs must be emptied and cleaned by removing all liquids and accumulated sludge for a permanent closure. The cleaning methods, quantity of materials removed, and the disposal location must be documented (manifests, etc.) in the assessment report.

3) Contact the Department **prior** to any de-watering activities. De-watering activities are actions necessary for removing water from the excavation for permanent closure or installation of USTs.

B) CLOSURE BY REMOVAL

1) Waste products, sludges, contaminated water, and contaminated paving material must be disposed of at a Department permitted treatment or disposal facility. Additional information and assistance may be obtained from the Bureau of Land and Waste Management by calling (803) 896-4000.

2) Temporarily excavate only enough soil to remove the emptied and cleaned tanks and piping.

3) After a UST system removal, inspect and document all USTs and piping for indications of failure. Noticeable failures should influence soil/water sampling locations.

4) Conduct a closure assessment where contamination is most likely to be found. (See Part IV; RECOMMENDED SAMPLING LOCATIONS).

5) All excavated soils are to be returned to the excavation except where authorized by a Department representative. Unsecured stockpiled soils pose a significant health hazard and can result in surface run off. The need for further assessment and/or corrective action will be determined by the Department based upon the assessment report. The excavation should be filled to grade with clean material.

6) Contaminated paving material cannot be placed into the excavation and must be disposed of at a facility permitted by the Division of Mining & Solid Waste Permitting. No paving material or construction debris should be placed into a contaminated excavation. If there are no indications of contamination, paving material generated on-site as part of closure activities may be placed into the excavation (at the landowner's option).

7) Follow all applicable transportation regulations if moving USTs off site. Please contact the local office of the Department of Transportation for additional information.

C) CLOSURE IN PLACE

1) Waste products, sludges, and contaminated water must be disposed of at a Department permitted treatment or disposal facility. Additional information and assistance may be obtained from the Bureau of Land and Waste Management by calling (803) 896-4000.

2) Conduct a closure assessment where contamination is most likely to be found. (See Part IV; RECOMMENDED SAMPLING LOCATIONS).

3) Fill the empty and cleaned UST and piping with an inert solid material (i.e., sand, concrete slurry, foam, etc.). Some local authorities have restrictions concerning the type of material used to close USTs in place. Check with these authorities prior to beginning closure.

D) RECEPTOR SURVEY

The location and type of receptors that are, or may be, affected by a release must be identified. Receptors such as underground structures and utilities located within 100 feet of the UST system should be included. Receptors such as surface water, sensitive habitats, and water supply wells within 1000 feet of the UST system should also be included. Refer to Appendix 3, Part XI for specific requirements.

E) AFTER CLOSURE

1) If free product is present at the site, the UST owner and operator must take <u>immediate</u> action regarding the release response and corrective action as outlined in Subparts E and F of SCUSTCR.

2) If free product or contamination is present at the site, the UST owner/operator must report the release to the Department within 72 hours of discovery. An UST 72 Hour Release Report form is included in the appendix.

VI. SOIL/GROUND WATER LABORATORY ANALYSIS

A) FOR UST SYSTEMS THAT CONTAIN PETROLEUM PRODUCTS

ANALYZE SAMPLES FOR EACH OF THE FOLLOWING:

PRODUCT / GASOLINE, DIESEL, FUEL OIL, KEROSENE	
SOIL SAMPLES	**WATER SAMPLES**
Analyte.....Method.....RL*	**Analyte.....Method.....RL***
BTEX..... 5035/8260B..... 5 µg/kg **Naphthalene.....5035/8260B..... 5 µg/kg** **PAH.....….....3550B/8270C.... 660 µg/kg**	**BTEX.....,.....…….5030B/8260B..... 5 µg/l** **Naphthalene.....…….5030B/8260B..... 5 µg/l** **MTBE.....…….5030B/8260B..... 40 µg/l** **PAH.....…….3510C/8270C..... 10 µg/l** **EDB……..5030B/8260B……. 5µg/1** **1,2-DCA……5030B/8260B……. 5µg/l**

PRODUCT / USED OIL	
SOIL SAMPLES	**WATER SAMPLES**
Analyte.....Method.....RL*	**Analyte..... Method.....RL***
BTEX.....5035/8260B.....…. 5 µg/kg **Naphthalene.....5035/8260B.....…. 5 µg/kg** **TPH.....9071B..... 10 mg/kg** **PAH.....3550B/8270C..... 660 µg/kg** **Metals** **Barium.....6010..... 2.5 mg/kg** **Selenium.....7740..... 0.25 mg/kg** **Arsenic.....7060A..... 0.25 mg/kg** **Cadmium.....7131A..... 0.05 mg/kg** **Chromium.. .....7191..... 0.25 mg/kg** **Lead.....7421..... 0.25 mg/kg** **Silver.....7761..... 0.25 mg/kg** **Mercury.....7471A..... 10 µg/kg**	**BTEX.....5030B/8260B..... 5 µg/kg** **Naphthalene.....5030B/8260B..... 5 µg/kg** **TPH...….....9070A..... 10 mg/l** **PAH.....3510C/8270C.....… 10 µg/l** **Metals** **Arsenic.....7060A..... 5 µg/l** **Selenium..... 7740..... 5 µg/l** **Barium..... 6010B..... 50 µg/l** **Cadmium..... 7131A..... 0.1 µg/l** **Chromium..... 7191..... 5 µg/l** **Silver..... 7761..... 5 µg/l** **Mercury..... 7470A.....….... 0.2 µg/l** **Lead..... ..... 7421.....….... 0.25 µg/l**

OTHER PETROLEUM	**REPRESENTATIVE PARAMETERS**

BTEX = Benzene, Toluene, Ethyl-benzene, Xylenes
PAH = Polynuclear Aromatic Hydrocarbons (Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene)
MTBE = Methyl Tertiary Butyl Ether
TPH = Total Petroleum Hydrocarbon
METALS = Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver
AA or ICP = Atomic Absorption or Inductively Coupled Plasma
*** = Reporting Limit (RL)**
EDB = Ethylene Dibromide
DCA = Dichloroethane

B) FOR UST SYSTEMS THAT CONTAIN HAZARDOUS SUBSTANCES

When assessing an UST system that has contained a CERCLA listed hazardous substance, all analyses must be performed by a laboratory certified by the Department. Analytical methods should be for representative parameters. Questions concerning appropriate analytical methods should be directed to the Bureau of Underground Storage Tank Management.

VII REPORTING

Please do not submit assessment reports for multiple sites bound under one cover. Since each site assessment is addressed individually, delays may result while the report is separated and may result in the possible loss of data. Incomplete assessment reports may not be reviewed until all necessary information is submitted.

VIII. QUESTIONS

On correspondence related to the site, please reference the Department's Permit ID Number. Questions should be addressed to the Underground Storage Tank Program at (803) 896-6240, FAX (803) 896-6245.

IX. AVOID THESE COMMON MISTAKES...

A) Some assessment reports are incomplete or submitted with deficiencies. These reports delay the entire reviewing process, and you may be asked to provide additional sampling, which means spending more money. To avoid being asked to resubmit work, please review the following list before starting your site assessment.

B) Perform the correct analysis

C) Incorrect reporting limits
The reporting limit for benzene, toluene, ethyl benzene, xylenes, (BTEX) and naphthalene is 5 µg/kg. The reporting limit for polynuclear aromatic hydrocarbons (PAHs) is 660 µg/kg. You should inform the laboratory performing the analysis of the required reporting limits. If the result of analysis (BTEX, naphthalene, or PAHs) for the sample is below the detection limit for that analyte, then the required reporting limit must still be met. Otherwise, you may be required to resample.

D) Failure to take the correct number of samples
The assessment guidelines provide sampling requirements for USTs closed by removal or filling in place. For closure by removal the number of samples is equal to the number of tanks plus one sample. When filling in place the number of samples is twice the number of tanks.

E) Failure to submit sampling methodology and sample depths
A brief description of how the samples were taken, precautions that were taken to prevent cross contamination and the method by which the samples were stored prior to being taken to the laboratory is required. Note: Ensure that samples are packed in ice. Blue ice packs or refrigerators are usually not adequate to maintain samples at the required temperature of 4 degrees Celsius.

F) Failure to sample the dispenser islands and piping runs
If the distance between the dispenser and UST is greater than 5 feet, a sample is required at a depth of 2 feet under the dispenser. Piping samples should be taken every 20 feet along straight runs exceeding 30 feet. Piping runs under 30 feet should be sampled at midpoint.

G) Signature

Please make sure that the owner/operator provides a signature at the bottom of the first page of the UST Assessment Report.

H) Site map

Include a site map with the location and depths of samples incorporating the UST system, underground utilities, and site receptors.

I) Standardized report format

1) Use the standardized report format to avoid delays in processing your report.

2) Call us at least ten days before beginning work so that our inspectors can be present during the tank closure. The inspector can assist in determining proper sampling locations. Depending on site-specific conditions, it may be possible for the inspector to reduce the number of samples that are required.

3) Please check the above list to make sure that your report is complete. If you have any questions regarding assessment requirements for USTs, call (800) 826-5435 (in South Carolina) or (803) 896-6240.

X. ATTACHMENTS

1 UST 72-Hour Release Report Form
2 UST Assessment Report Form and Instructions

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Underground Storage Tank 72-Hour Release Report

Permit ID #_____Facility Name _____

Address _____

_____

Contact _____ Telephone _____

1. Number of USTs at this site: In Service _____ Out of Service _____
2. Are any drinking water wells on or near the site? YES NO
3. Is the drinking water contaminated? YES NO
4. Date release was discovered? _____
5. How was the release discovered? _____
6. Type of product(s) discovered _____

Describe **ACTIONS** taken to: (attach additional sheets if necessary)

7. Discover the **CAUSE** (Source) of the release_____

   _____

   ****If the source cannot be identified, all tanks and piping must be precision tested and the dispensers and pump heads checked for leaks. These results must be submitted to the Department within 7 days of this release report. ****

8. **PREVENT** further release _____

   _____

9. Emergency actions taken (if applicable) _____

   _____

10. ___ I hereby request access to the SUPERB fund. YES NO (If tank owner/operator is filing report.)
11. ___ I certify that I do **not** have insurance that covers releases from underground storage tanks.

Notify proper local authorities and neighboring property owner potentially affected by the release. On correspondence please reference the **PERMIT ID NUMBER**.

Reported by (print)_____ Telephone _____

Signature _____ Date _____

Received by _____

Attachment 1
South Carolina Department of Health and Environmental Control (SCDHEC)

Underground Storage Tank (UST) Assessment Report

Date Received
State Use Only

Submit Completed Form To:
UST Program
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 896-6240

I. OWNERSHIP OF UST (S)

Owner Name (Corporation, Individual, Public Agency, Other)

Mailing Address

City State Zip Code

Area Code Telephone Number Contact Person

II. SITE IDENTIFICATION AND LOCATION

Permit I.D. #

Facility Name or Company Site Identifier

Street Address or State Road (as applicable)

City ZIP County

Attachment 2

III. INSURANCE INFORMATION

Insurance Statement

The petroleum release reported to DHEC on _____ at Permit ID # may qualify to receive state monies to pay for appropriate site rehabilitation activities. Before participation is allowed in the State Clean-up fund, written confirmation of the existence or non-existence of an environmental insurance policy is required. **This section must be completed.**

Is there now, or has there ever been an insurance policy or other financial mechanism that covers this UST release? **YES____ NO_____** (check one)

If you answered **YES** to the above question, please complete the following information:

My policy provider is:_____
The policy deductible is: _____
The policy limit is: _____

If you have this type of insurance, please include a copy of the policy with this report.

And

I **do/do not** (circle one) wish to participate in the Superb Program.

IV. CERTIFICATION (To be signed by the UST owner/operator.)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

_____
Name (Type or print.)

_____
Signature

To be completed by Notary Public:

Sworn before me this _____ day of_____, 20___.

_____
(Name)

Notary Public for the state of_____.
Please affix State seal if you are commissioned outside South Carolina

V. UST INFORMATION

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6

A. Product...(ex. Gas, Kerosene).....

B. Capacity..(ex. 1k, 2k).....

C. Age.....

D. Construction Material..(ex. Steel, FRP).....

E. Month/Year of Last Use.....

F. Depth (ft.) To Base of Tank.....

G. Spill Prevention Equipment Y/N.....

H. Overfill Prevention Equipment Y/N.....

I. Method of Closure Removed/Filled.....

J. Date Tanks Removed/Filled.....

K. Visible Corrosion or Pitting Y/N.....

L. Visible Holes Y/N.....

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)

_____

_____

N. Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests)

_____

_____

O. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

_____

VI. PIPING INFORMATION

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6

A. Construction Material..(ex. Steel, FRP).....

B. Distance from UST to Dispenser.....

C. Number of Dispensers.....

D. Type of System Pressure or Suction…….

E. Was Piping Removed from the Ground? Y/N

F. Visible Corrosion or Pitting Y/N.....

G. Visible Holes Y/N.....

H. Age.....

I. If any corrosion, pitting, or holes were observed, describe the location and extent for each piping run.

_____

_____

_____

VII. BRIEF SITE DESCRIPTION AND HISTORY

_____

_____

_____

_____

_____

_____

VIII. SITE CONDITIONS

	Yes	No	Unk
A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells? If yes, indicate depth and location on the site map.			
B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells? If yes, indicate location on site map and describe the odor (strong, mild, etc.)			
C. Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)?			
D. Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map. Name of DHEC representative authorizing soil removal:			
E. Was a petroleum sheen or free product detected on any excavation or boring waters? If yes, indicate location and thickness.			

IX. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number _____

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store the samples. Also include the preservative used for each sample. Please use the space provided below.

XI. RECEPTORS

	Yes	No
A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map.		
B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		
C. Are there any underground structures (e.g., basements) Located within 100 feet of the UST system? If yes, indicate type of structure, distance, and direction on site map.		
D. Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? If yes, indicate the type of utility, distance, and direction on the site map.		
E. Has contaminated soil been identified at a depth less than 3 feet below land surface in an area that is not capped by asphalt or concrete? If yes, indicate the area of contaminated soil on the site map.		

SITE MAP

You must supply a <u>scaled</u> site map. It should include all buildings, road names, utilities, tank and dispenser island locations, labeled sample locations, extent of excavation, and any other pertinent information.

(Attach Site Map Here)

SUMMARY OF ANALYSIS RESULTS

Enter the soil analytical data for each soil boring for all COC in the table below and on the following page.

CoC	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo(a)anthracene								
Benzo(b)flouranthene								
Benzo(k)flouranthene								
Chrysene								
Dibenz(a,h)anthracene								
TPH (EPA 3550)								

CoC	SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15	SB-16
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo(a)anthracene								
Benzo(b)flouranthene								
Benzo(k)flouranthene								
Chrysene								
Dibenz(a,h)anthracene								
TPH (EPA 3550)								

SUMMARY OF ANALYSIS RESULTS (cont'd)

Enter the ground water analytical data for each sample for all CoC in the table below. If free product is present, indicate the measured thickness to the nearest 0.01 feet.

CoC	RBSL (µg/l)	W-1	W-2	W -3	W -4
Free Product Thickness	None				
Benzene	5				
Toluene	1,000				
Ethylbenzene	700				
Xylenes	10,000				
Total BTEX	N/A				
MTBE	40				
Naphthalene	25				
Benzo(a)anthracene	10				
Benzo(b)flouranthene	10				
Benzo(k)flouranthene	10				
Chrysene	10				
Dibenz(a,h)anthracene	10				
EDB	.05				
1,2-DCA	.05				
Lead	Site specific				

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

(Attach Certified Analytical Results and Chain-of-Custody Here)
(Please see Form #4)

Did You Remember to Include the Following?

-- **Permit ID Number**

-- **Sample Collection and Storage Methods**

-- **Preservative used in the sample containers**

-- **Scaled Site Map with ALL Requested Information**

-- **Laboratory Chain-of-Custody Form**

-- **Certified Analytical Results**

-- **Completed and Notarized Insurance Statement**

-- **A Copy of Your Environmental Insurance Policy (if applicable)**

-- **Samples from all Dispenser Islands and Piping Runs**

-- **Photographs (if available)**